

Blood Bank Management System

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APPROVAL

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DECLARATION

We, hereby, declare that the work presented in this report is the outcome of the investigation performed by us under the supervision of **Sadia Tasnim Barsha, Lecturer & Exam Coordinator**, Department of Computer Science and Engineering, Sonargaon University, Dhaka, Bangladesh. We reaffirm that no part of this [thesis or project] has been or is being submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

This project is aimed to developing a Blood Bank Management System. The entire project has been developed keeping in view of the distributed client server computing technology, in mind. The Blood Donor is to create an e-Information about the donor that are related to donating the blood. Through this website, any person who is interested in donating the blood can register himself. Moreover, if any people wants to make request blood online, he can also take the help of this site. Admin is the main authority who can do addition, deletion, and modification if required. The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The website for the storage of the data has been planned. Using the constructs of MySQL Server and all the user interfaces have been designed using the PHP programming language.

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At the very beginning, we would like to express my deepest gratitude to the Almighty Allah for giving us the ability and the strength to finish the task successfully within the schedule time.

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LIST OF ABBREVIATIONS

BBMS	Blood Bank Management System.
CSS	Cascading Style Sheets.
DMS	Database Management System
HTML	Hyper Text Markup Language.
PHP	Hypertext Preprocessor .
RDBMS	Relational database management system
RAM	Random Access Memory.
ROM	Read Only Memory.

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CHAPTER 1

INTRODUCTION OF THE PROJECT

1.1 Introduction

Blood Bank Management System (BBMS) is a web based system that can be used by the blood donors or blood seekers as a means to advertise the nationwide blood donation events to the public and at the same time allow the user of this system and donor registration and user to make request for the blood. The system keeps the record of all the donors, recipients, blood donation programs. From this system, there are several type of report that can be generated such as donor's gender report and the total of blood donation according to months and year. Hence, BBMS will make computerize the blood and donor management system more systematic and manageable.

1.2 Objectives

- ✓ To provide a means for the blood bank to publicize and advertise blood donation programs.
- ✓ To allow the probable recipients to make search and match the volunteer donors, and make request for the blood.
- ✓ To provide an efficient donor and blood stock management functions to the blood bank by recording the donor and blood details.
- ✓ To provide a function to send an e-mail directly to the donor for their users availability of the blood request

1.3 Explaining of the Proposed System

The purpose of the Blood Bank Management System is to simplify and automate the process of searching for blood in case of emergency and maintain the records of blood donors, users/recipients and blood donation programs. Our system also allows users to search online the person who has the same blood group. Once a user finds a donor to nearest area we will provide them all details of that donor.

1.4 Project Scope

It becomes really tedious for a person to search blood in case of emergency. The only option is to manually search and match donors and then make phone calls to every donor. There is also centralized database used to keep the donors' records.

CHAPTER 2

FEATURES AND FUNCTIONALITY

2.1 Features of the Project

2.1.1 Registration

This function allows the donor and administrator to register as a user to interact with the system. The system requires the user to login before viewing, editing, and blood request access other feature.

2.1.2 Email welcome mail

- When registration complete by donors or user send to welcome mail in inbox.

2.1.3 View and edit information

- Donors are allowed to view their blood donation records by their given account
- They can also modify own his password and they will want to change other information contact admin.

2.1.4 Blood Request Search

- User can search blood and location ways donors.

2.1.5 Recording donation records

- This feature only show admin and donor panel.

2.1.6 Forgot password

- If users or donors forgot his password they can recovery easily from mailing system

2.2 Functions of the Administrator

- Admin can reply to User or donor question
- Admin added a new events for upcoming camping and other programs
- Admin can modify delete, update etc. to users and donors
- We can use mail advertisements and send notice to all users/donors
- Live tiger news control
- Camping images updated and delete

CHAPTER 3

TECHNOLOGY AND ENVIRONMENT

3.1 Required Technology

The main technology used to development this project is HTML (Hyper Text Markup Language), CSS (Cascading Style Sheets), Bootstrap, JavaScript, PHP programming language, MySQL used for DMS (Database Management System), core support XAMPP local server and Visual Studio.

3.1.1 HTML

HTML is used to create the structure of the website. The User Interface part of the website constructed by HTML5. So that, it becomes more user friendly. The extended reach of information and services to users that the Internet has enabled, has created a new challenge for the developer. The developer should develop a user interface that is distributable, available on multiple platforms and supports a wide range of client environments from handheld wireless devices to high-end workstations. So to maintain a broad reach to client environments and to achieve greatest compatibility with all browsers, this system uses standard HTML.

Hyper Text Markup Language is the standard language for creating documents for the World Wide Web. An HTML document is a text file, which contains the elements, in the form of tags that a web browser uses to display text, multimedia objects, and hyperlinks using HTML; we can format a document for display and add hyperlinks to other documents.

The user interface has been designed in HTML hence can be browsed in any web browser.[1]

3.1.2 CSS

CSS is used to provide the attractive design of the HTML structure. So that, user can catch the required things easily. It has been used to separate data form presentation. By using these style sheets throughout the project, a uniform look and feel can be maintained for all the HTML elements and tags that have been used in the project. If there is any revamp the way the content has been presented in the website, the changes can be made to the appropriate style sheet, which will be reflected across all the style sheets.[1]

3.1.3 Bootstrap

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains HTML, CSS and JavaScript based design templates for typography, forms, buttons, navigation, and other interface components.[1]

3.1.4 JavaScript

JavaScript used for alongside HTML and CSS of websites on the client side for webpage behavior and often incorporating third-party libraries.

3.1.5 PHP

PHP is to interact the whole system.

3.1.6 MySQL

MySQL is an open source relational database management system. It is based on the structure query language (SQL), which is used for adding, removing, and modifying information in the database. Standard SQL commands, such as ADD, DROP, INSERT, and UPDATE can be used with MySQL.

A database management system requires a query language to enable users to access data. Structured Query Language (SQL – pronounced ‘sequel’) is the language used by most relational database systems.[1]

3.1.7 XAMPP

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.[2]

3.1.8 Visual Studio

Visual studio works as the IDE for this system.

3.2 Methodology

A system development methodology refers to the framework that is used to structure, plan, and control the process of developing an information system. It is a model to define the set of activities that leads to a system development. Choosing an effective and ideal development methodology is a very important step in order to ensure the project development done on time and reduce the risk. System development methodology is not necessarily suitable for use by all projects. Each of the available methodologies is best suited to specific kinds of projects, based on various technical, organizational, project and team considerations. This chapter describes and explains the research methodology used in this dissertation.[3][4]

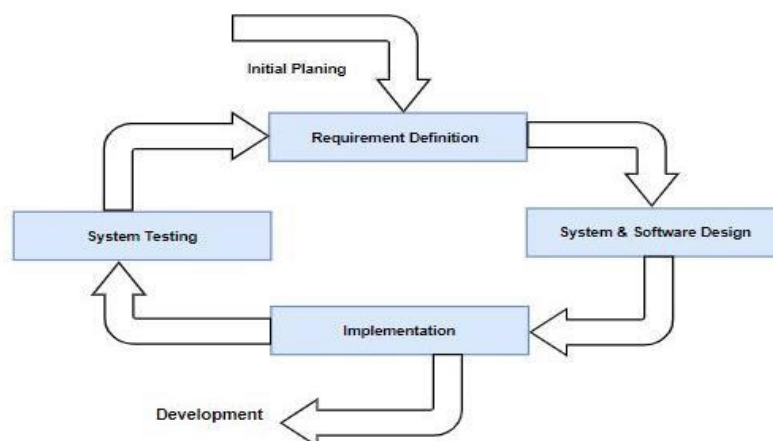


Fig: 3.1 Project Methodology

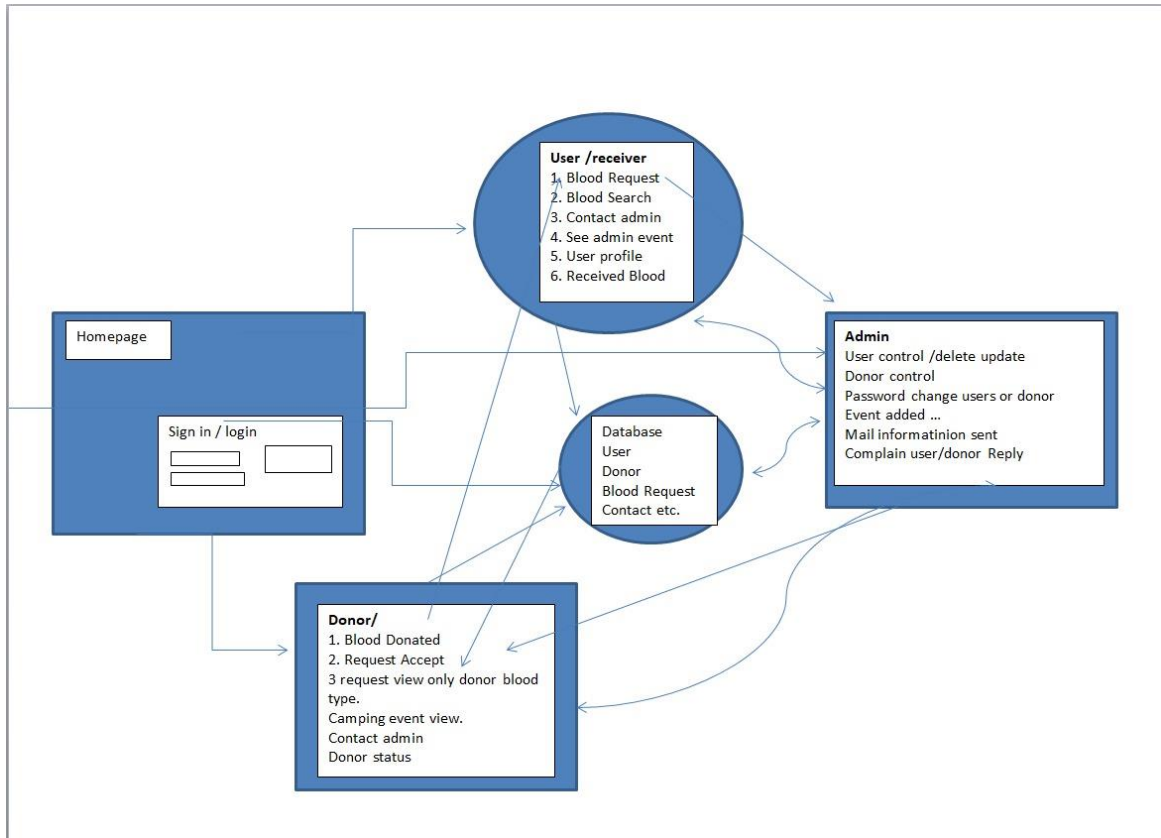


Fig: 3.2 Project diagram

CHAPTER 4

SYSTEM DATA FLOW

4.1 Data Dictionary

The efficiency of this website developed using RDBMS mainly depend upon the database tables, the fields in each table and the way the tables are opened using the contents in them to retrieve the necessary information. Hence a careful selection of tables and their fields are imperative.

The database tables used in this system are created keeping the above points in mind. The tables used are given below.

4.1.1 User Registration Data Dictionary

Used to Register the donor information and helpful for the people in need of blood to get details regarding the person with matching blood group and city.

Field Name	Data Type	Description
user_id	int(100)	It gives us user identification.
name	varchar(100)	It gives us user name.
phone	int(11)	It gives us user phone number.
email	varchar(100)	It gives us user email address.
age	int(2)	It gives us user age.
gender	varchar(100)	It gives us gender type of user.
blood	varchar(100)	It gives us user blood group.
city	varchar(100)	It gives us user location.
user_type	varchar(100)	A user type specifies account.
pswd	varchar(100)	It gives password for login to user.
photo	varchar(100)	It gives image of user for identification.
verify_token	varchar(1111)	It means that short live token that are linked to users.

Table : 4.1 User Registration Dictionary

4.1.2 Donor Registration Dictionary

Field Name	Data Type	Description
donor_id	int(100)	It gives us donor identification.
name	varchar(100)	It gives us donor name.
phone	int(11)	It gives us donor phone number.
email	varchar(100)	It gives us donor email address.
age	int(2)	It gives us donor age.
gender	varchar(100)	It gives us gender type of donor.
blood	varchar(100)	It gives us donor blood group.
city	varchar(100)	It gives us donor location.
user_type	varchar(100)	A donor type specifies account.
pswd	varchar(100)	It gives password for login to donor.
photo	varchar(100)	It gives image of donor for identification.
verify_token	varchar(1111)	It means that short live token that are linked to donors.

Table : 4.2 Donor Data Dictionary

CHAPTER 5

SYSTEM AND INTERFACE DESIGN

5.1 System Design

This BBMS is using PHP as the main development language. It is stored in one folder & host by the local server (XAMPP). The main folder BloodManagement under of htdocs in main XAMPP server. There are different folder as per the below.

5.2 File & Folder of Root Folder

- admin
- assets
- donor
- image
- js
- uploads
- user
- vendor
- about.php
- blood.php
- camping.php
- code.php
- composer.json
- composer.lock
- contact_us.php
- db_con.php
- footer.php
- forget_password.php
- forget_password_code.php
- headerWithNav.php
- index.php
- logincode.php
- password_change.php
- registration.php
- signin.php

5.2 System Design Snapshots

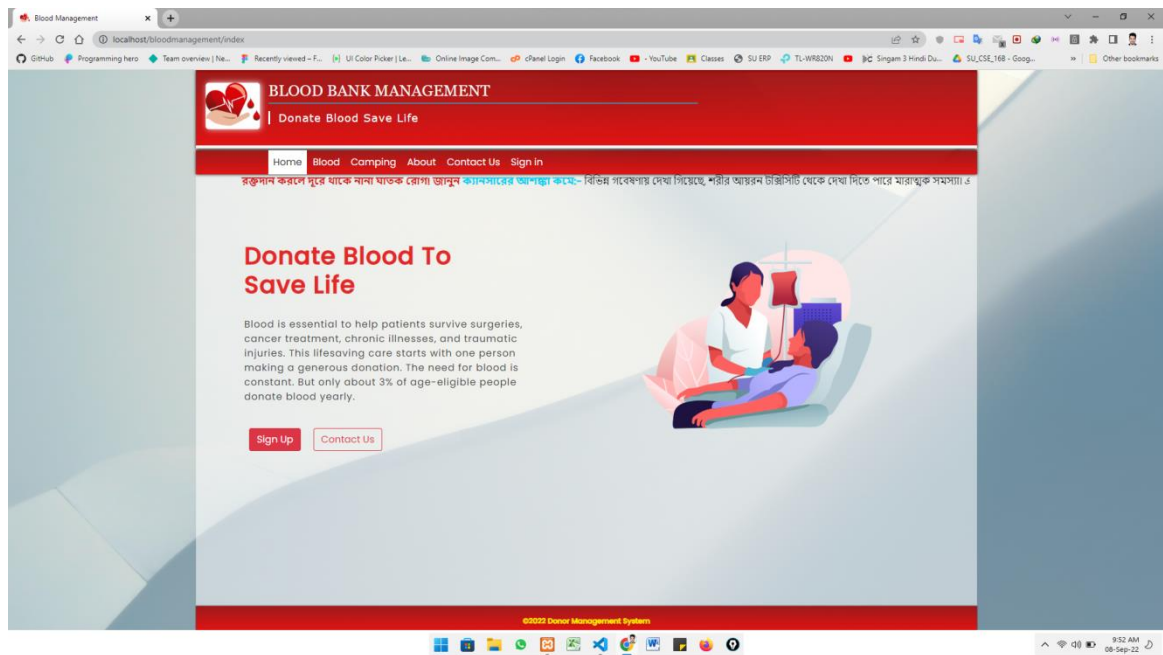


Fig : 5.1 Index page

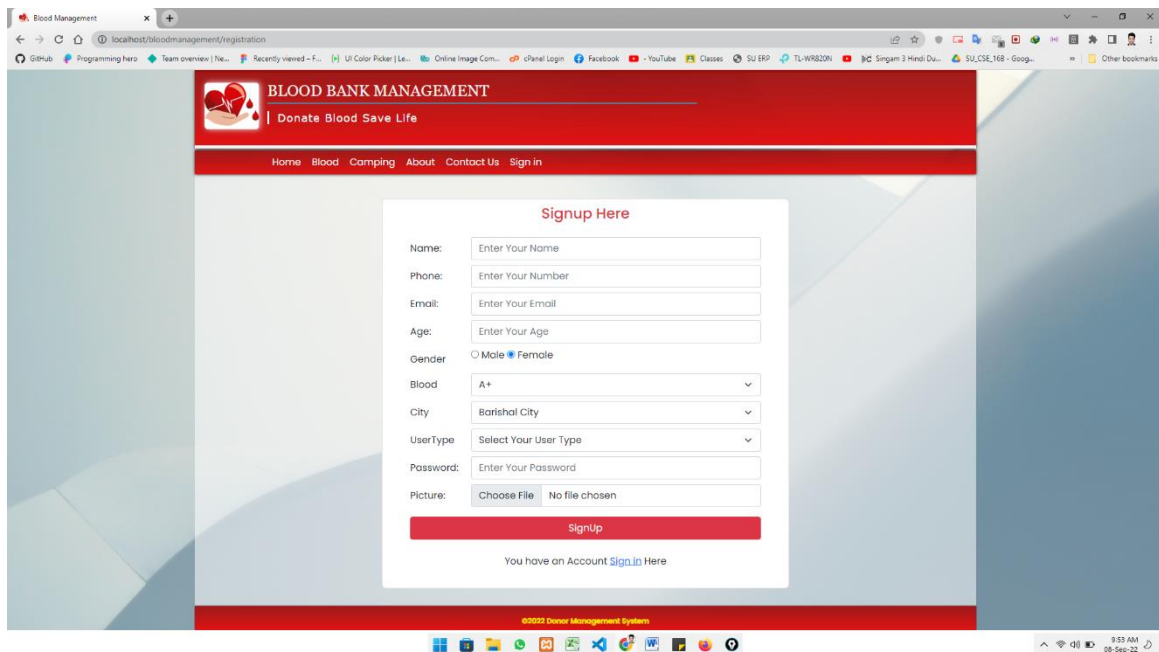


Fig : 5.2 User & Donor registration page

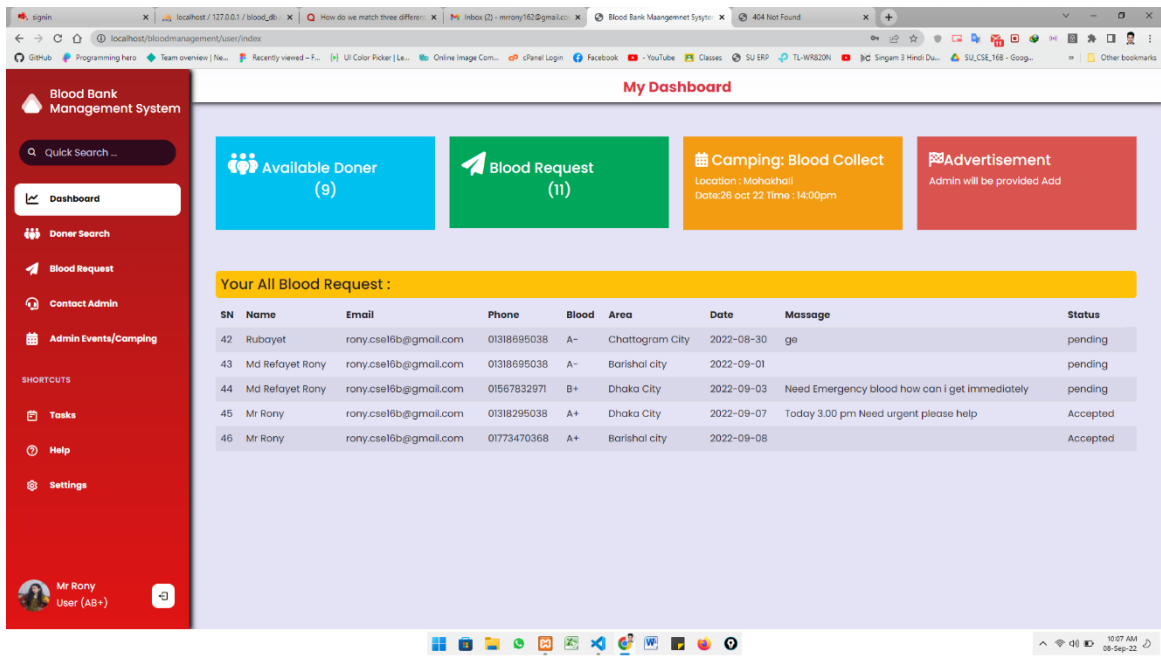


Fig : 5.3 User index page

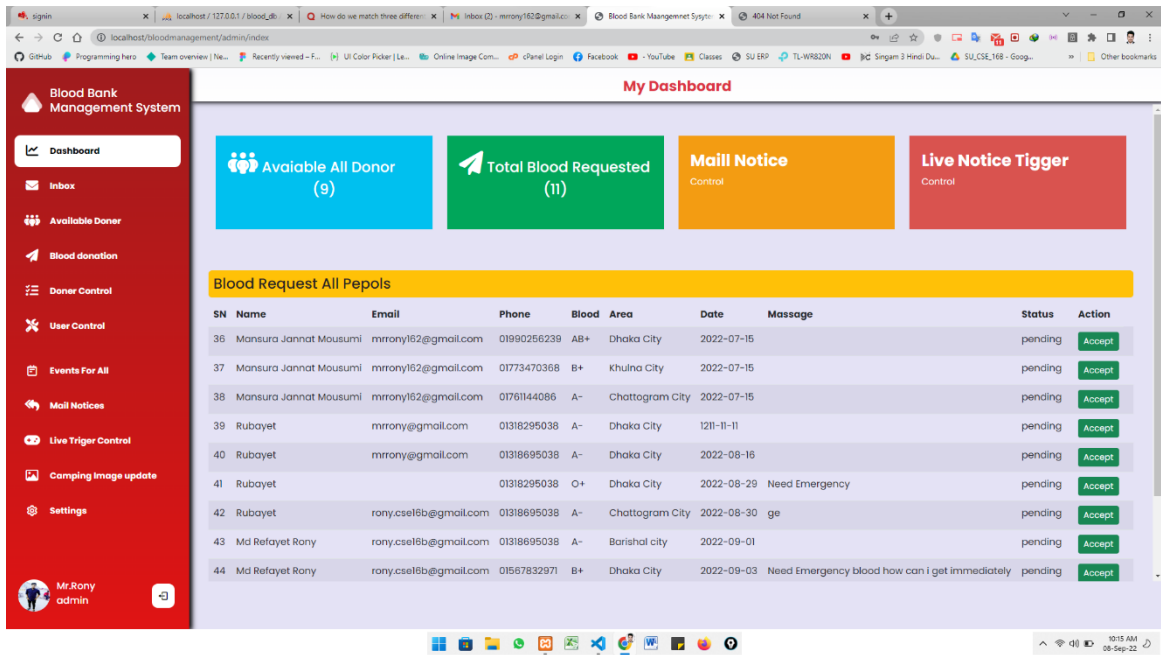


Fig : 5.4 Admin index page

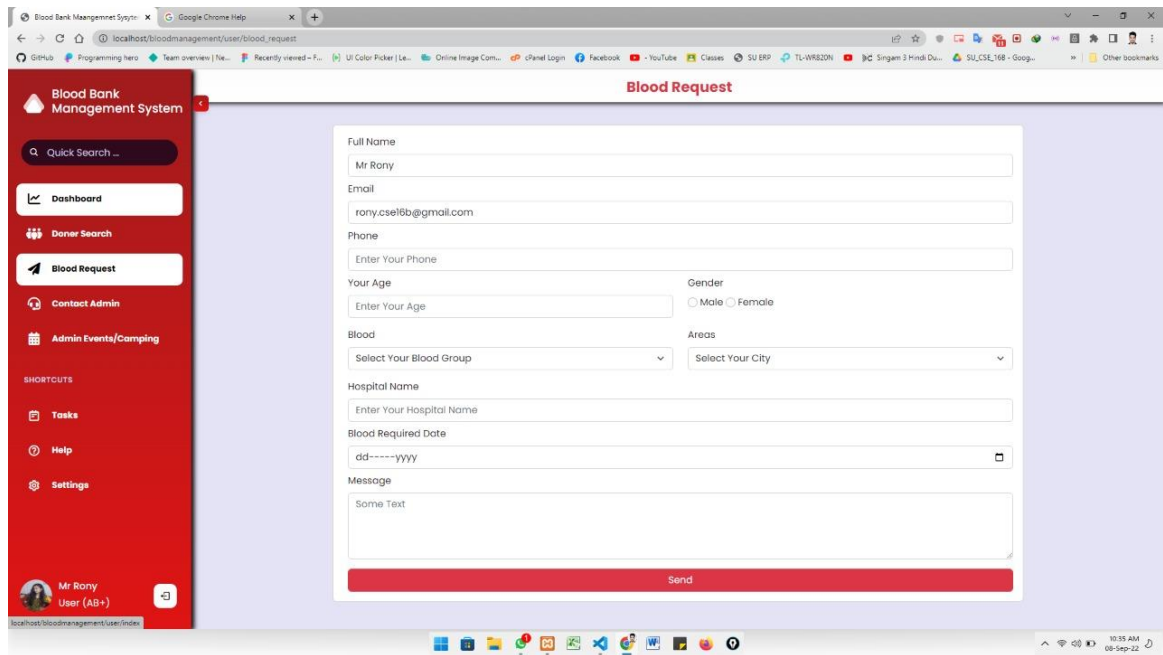


Fig : 5.5 Blood request page

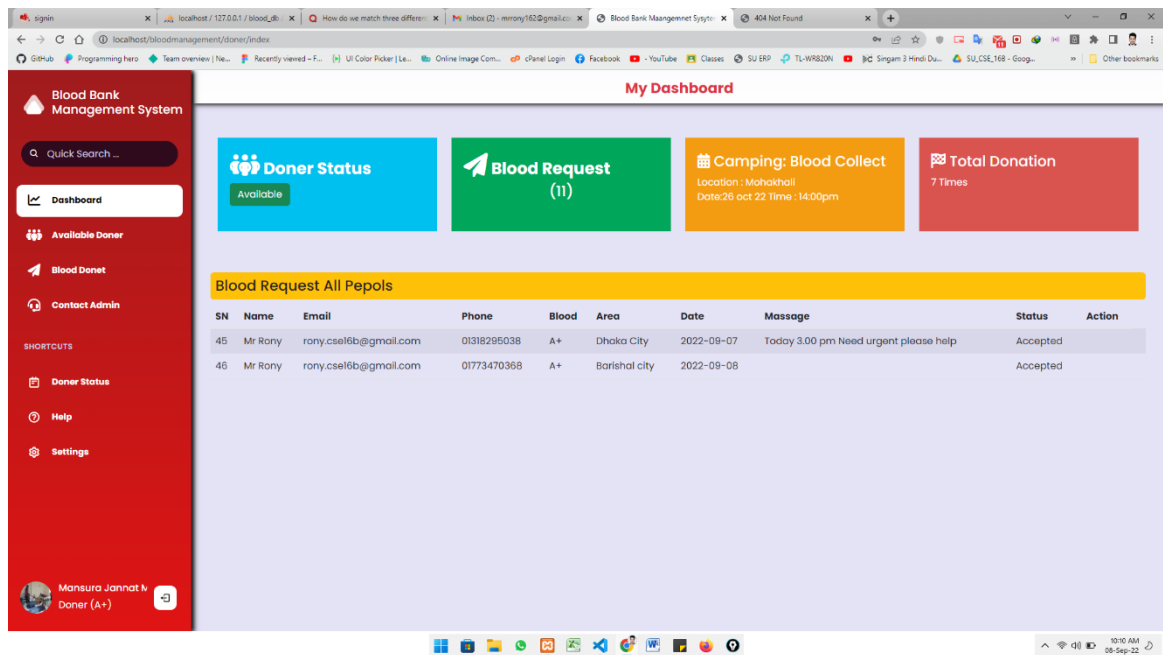


Fig : 5.6 Donor index page

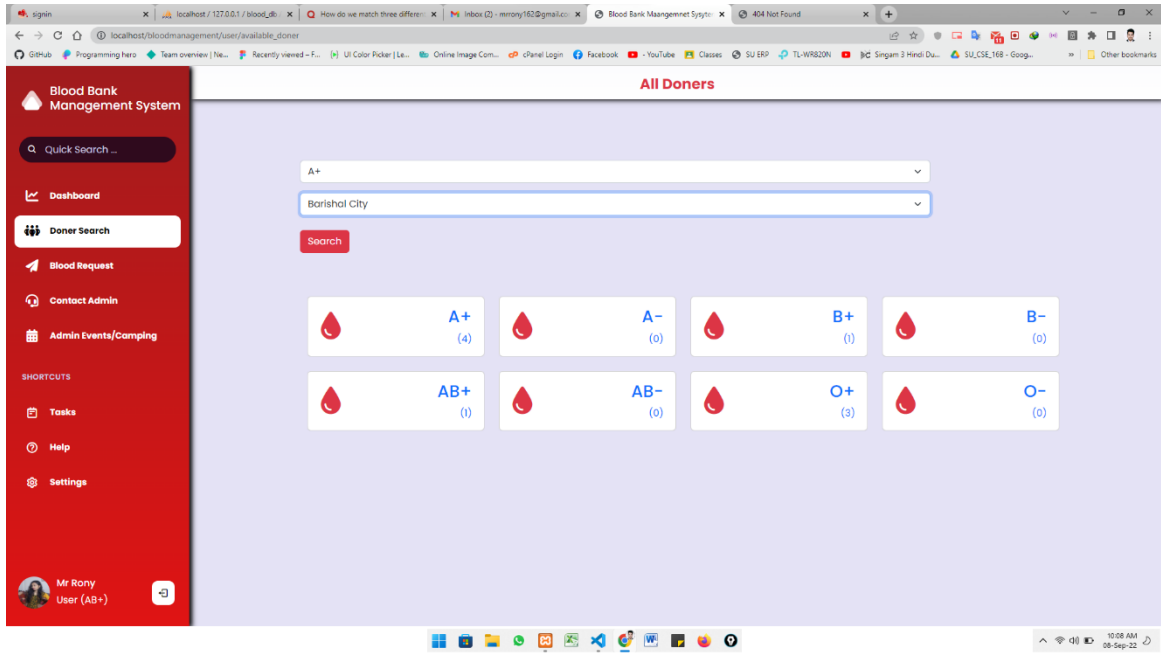


Fig : 5.7 Donor search page

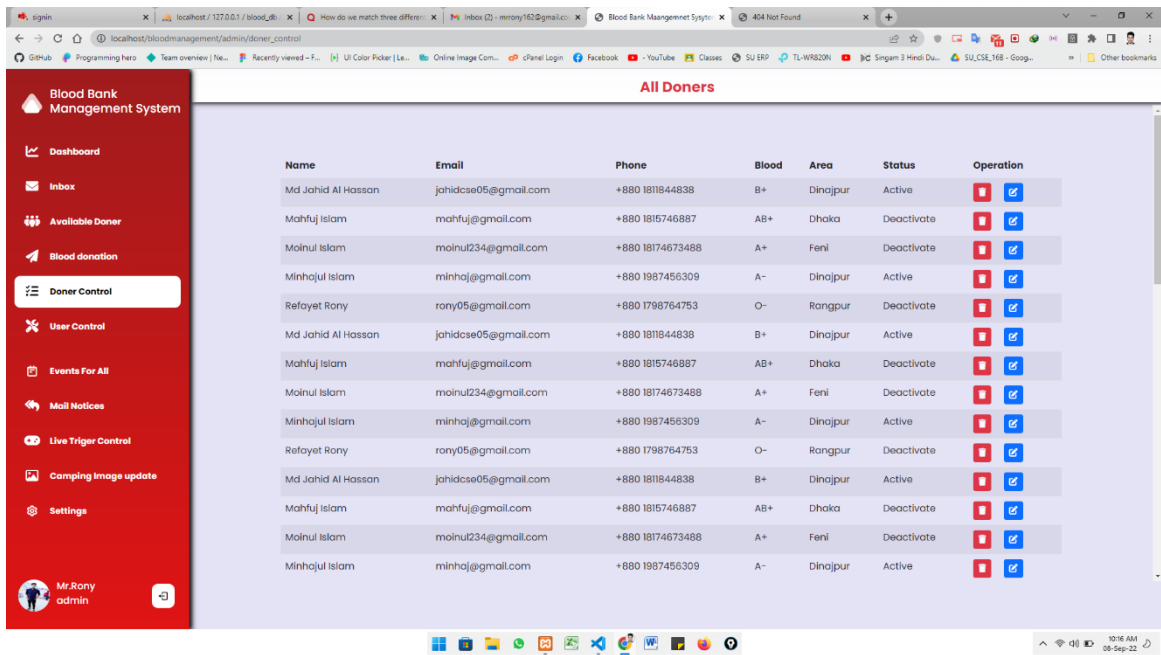


Fig : 5.8 Donor control page

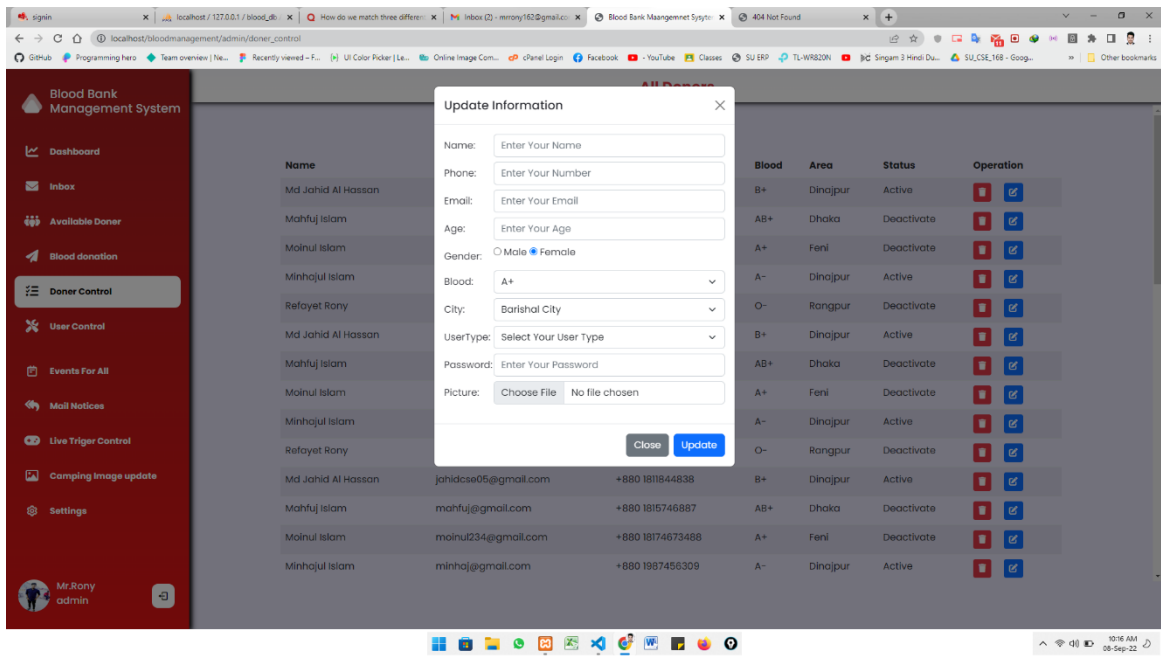


Fig : 5.9 Update modal page

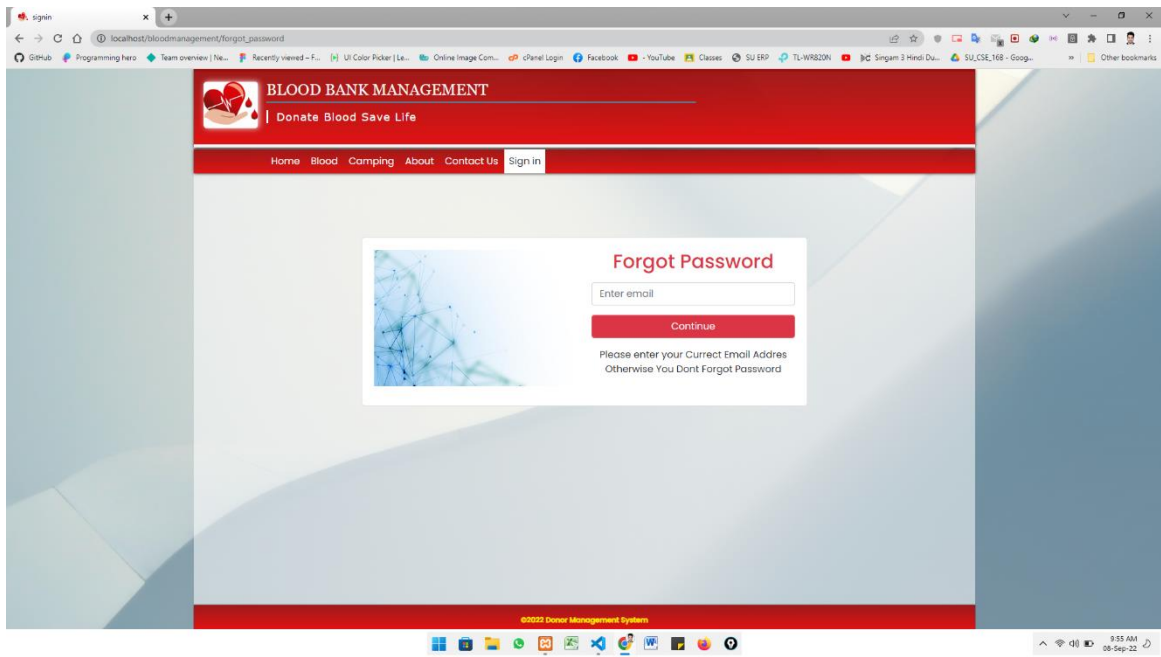


Fig : 5.10 Forgot password page

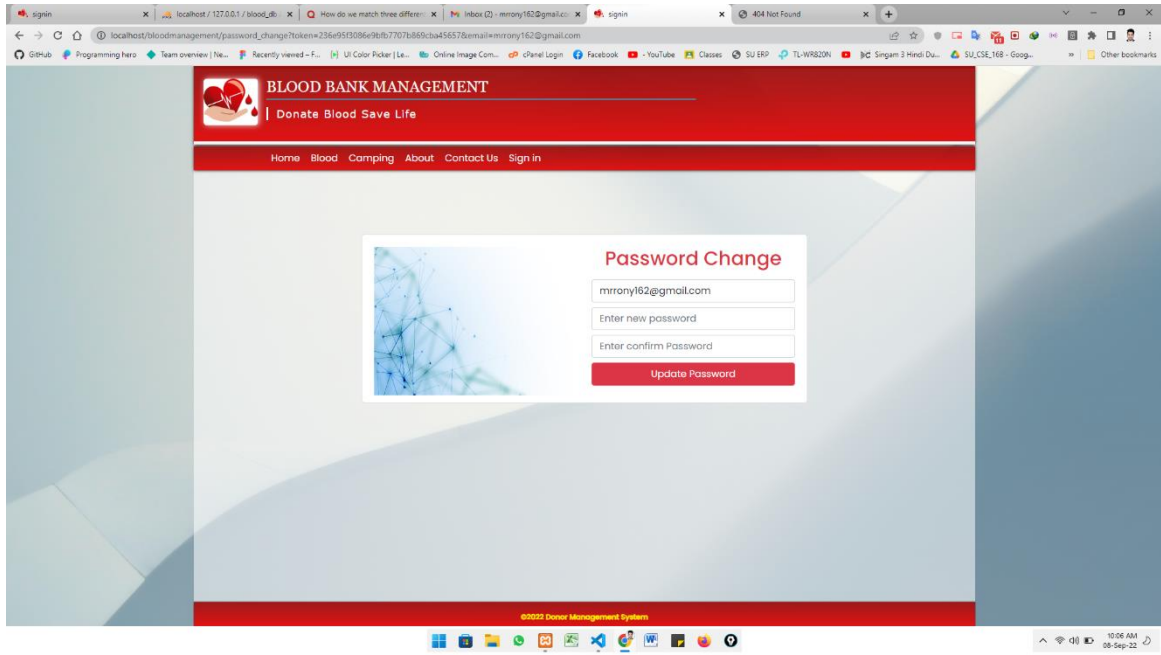


Fig : 5.11 Change password after forgot page

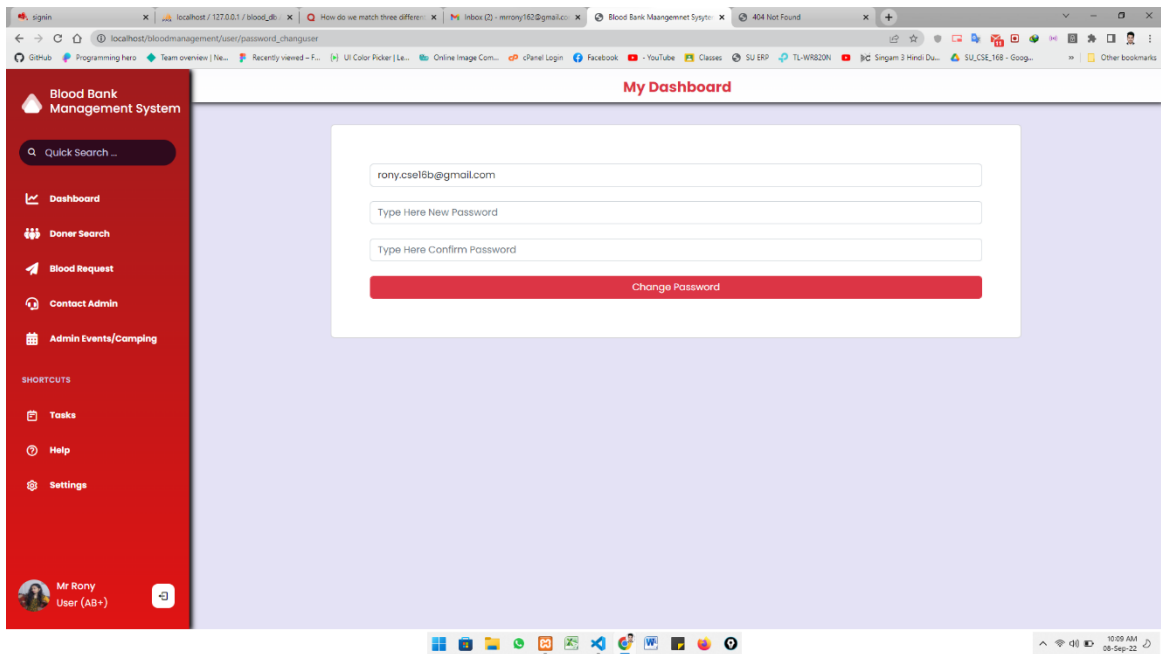


Fig : 5.12 Password change from user dashboard

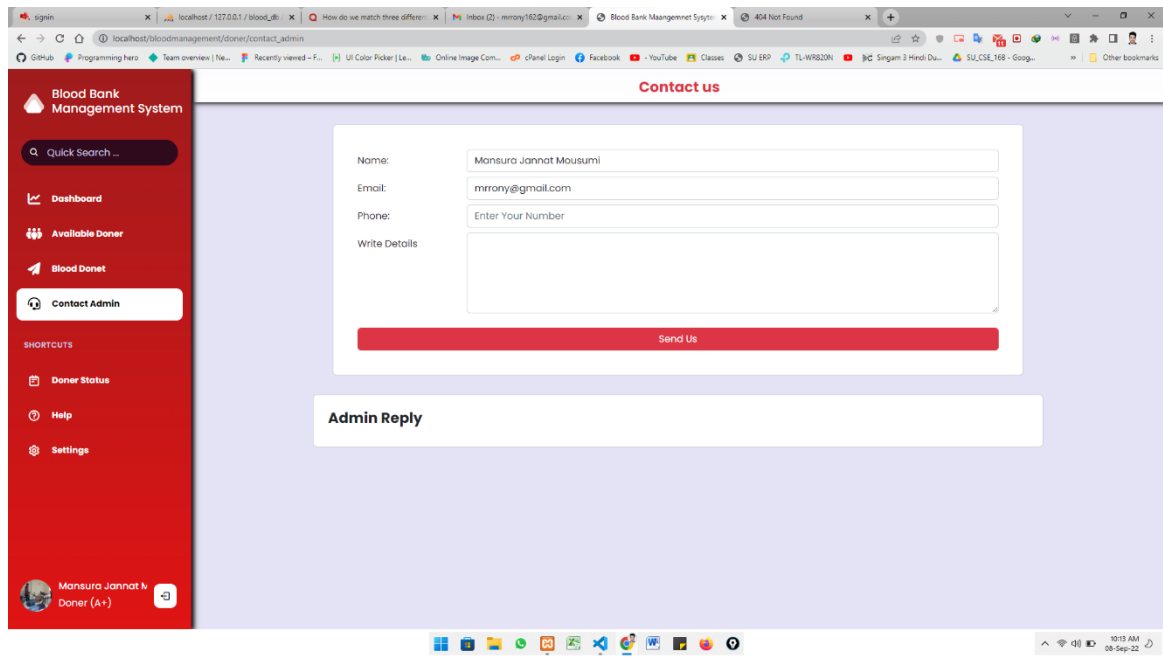


Fig : 5.13 Contact page

CHAPTER 6

SYSTEM SECURITY AND ANALYSIS

6.1 System Security

6.1.1 User Management

The user system is including add, modify user. The members will register the account in the system. Each user will have a special access code to bind their user account with their profile.

6.1.2 User Authentication

Users need to provide their Email and Password every time as they need to access the system.

6.1.3 Donor Authentication

Donor need to provide their Email and Password every time as they need to access the system.

6.1.4 Admin Authentication

Administrator need to provide administrator Email and Password every time as they need to access the system. Moreover, if admin want to modify or delete data from the system the system will ask for password of admin every time.

6.1.5 Directed url block for avoiding hacking

Can go to directed url page to another page its to best security for website
Don't accesses signup to without logging

CHAPTER 7

CONCLUSION AND FUTURE UPDATE

7.1 Conclusion

With the theatrical inclination of our syllabus it becomes very essential to take the advantages of any opportunity of gaining practical experience that comes along. The building blocks of this major project “Blood Bank Management System” was one of this opportunities. It gave us the required practical knowledge to supplement the already taught theoretical concepts thus making more competent as a computer engineer. This is to make sure that the management of the blood stock became effective, systematic and meeting user requirements. The functional services provided in the current version are profile management, blood stock management, and blood analysis management. This project has given me an ample opportunity to design, code, test and implements an application. This has helped in putting into practice of various Software Engineering principles and Database Management concepts like maintaining integrity and consistency of data.

7.2 Future Update Plans

7.2.1 GPS

We would like to gather more information regarding the contact persons in other cities as well as villages and will provide much more services for the people and help everyone with humanity. GPS is the best way to provide actual location. In future, we would like to add the location tracking system through GPS which will help us to upgrade the donor searching method.

7.2.2 Mobile Apps

Now a days people are comfortable with various application those are easy to use and portable. We would like to make a portable and modified BBMS version based on android OS and IOS also in future.

7.2.3 SMS System

SMS system is important because donor notification update, receiver information send for the remainder. It is very helpful to save time and avoid a critical situation

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